These programme regulations should be read in conjunction with the University's core regulations for undergraduate programmes, and the marking and classification conventions for undergraduate programmes.

## BSc Mathematics (G100), BSc Mathematics with Year Abroad (G109)

**1.** This programme is available at Durham City, in a full-time mode of study.

**Level 1 (Certificate)**

**2.** Candidates shall study and be assessed in the following modules:

|  |  | Credit value |
|---|---|---|
| Calculus and Probability I # | MATH1061 | 20 |
| Linear Algebra I # | MATH1071 | 20 |
| Analysis I # | MATH1051 | 20 |
| Programming and Dynamics I | MATH1041 | 20 |

**3.** Candidates shall also study and be assessed in modules up to the value of 40 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).

**Level 2 (Diploma)**

**4.** Candidates shall study and be assessed in the following modules:

|  |  | Credit value |
|---|---|---|
| Complex Analysis II | MATH2011 | 20 |
| Analysis in Many Variables II | MATH2031 | 20 |

**5.** Candidates shall also study and be assessed in modules to the value of 20 or 40 credits from List A1:

| List A1: |  | Credit value |
|---|---|---|
| Statistical Concepts II | MATH2041 | 20 |
| Numerical Analysis II | MATH2051 | 20 |

**6.** Candidates shall also study and be assessed in modules to the value of 40 or 60 credits from List A2:

| List A2: |  | Credit value |
|---|---|---|
| Algebra II | MATH2581 | 20 |
| Monte Carlo II | MATH2667 | 10 |
| Elementary Number Theory II | MATH2617 | 10 |
| Geometric Topology II | MATH2627 | 10 |
| Mathematical Physics II | MATH2071 | 20 |
| Mathematical Modelling II | MATH2637 | 10 |
| Probability II | MATH2647 | 10 |
| Special Relativity and Electromagnetism II | MATH2657 | 10 |

**Year Abroad (Year 3)**

**7.** This programme is only available to students admitted initially to the BSc Mathematics (G100) programme (or equivalent). Candidates wishing to transfer to BSc Mathematics with year abroad (G109) must:

a. successfully complete Level 1 of the BSc Mathematics (G100) programme (or equivalent) with an average mark of 55%, and be eligible to progress to Level 2 of the honours programme;

b. before the beginning of the first term of Level 2 study, have applied to the Board of Studies in Mathematical Sciences to be admitted to the BSc Mathematics with year abroad (G109) and have had their application provisionally approved by that Board;

c. during the first term of Level 2 study, have their application formally approved by that Board upon successful completion of the Mathematical Sciences preparatory placement course.

d. Where tuition at the Overseas Partner Institution is in a foreign language, candidates must have taken at least 20 credits in an appropriate language module at level 1.

**Level 3 (Degree)**

8. Candidates shall study and be assessed in the following module to the value of 40 credits:

|  |  | Credit value |
|---|---|---|
| Project III | MATH3382 | 40 |

9. Candidates shall study and be assessed in **EITHER** modules to the value of 80 credits from List B **OR** modules to the value of 60 credits from List B and one open 20 credit module chosen from those offered by any other Board of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study):

| List B2 (2018-2019): |  | Credit value |
|---|---|---|
| Numerical Differential Equations III | MATH3081 | 20 |
| Geometry III | MATH3201 | 20 |
| Number Theory III | MATH3031 | 20 |
| Probability III | MATH3211 | 20 |
| Statistical Mechanics III | MATH3351 | 20 |
| Topics in Statistics III | MATH3361 | 20 |

| List B1 (2017-2018): |  | Credit value |
|---|---|---|
| Analysis III | MATH3011 | 20 |
| Bayesian Statistics III | MATH3341 | 20 |
| Continuum Mechanics III | MATH3101 | 20 |
| Representation Theory III | MATH3371 | 20 |
| Solitons III | MATH3231 | 20 |
| Stochastic Processes III | MATH3251 | 20 |

| List B3: |  | Credit value |
|---|---|---|
| Cryptography and Codes III | MATH3401 | 20 |
| Decision Theory III | MATH3071 | 20 |
| Differential Geometry III | MATH3021 | 20 |
| Dynamical Systems III | MATH3091 | 20 |
| Galois  Theory III | MATH3041 | 20 |
| Mathematical Biology III | MATH3171 | 20 |
| Mathematical Finance III | MATH3301 | 20 |
| Mathematics Teaching III | MATH3121 | 20 |
| Operations Research III | MATH3141 | 20 |
| Partial Differential Equations III | MATH3291 | 20 |
| Quantum Information III | MATH3391 | 20 |
| Quantum Mechanics III | MATH3111 | 20 |
| Statistical Methods III | MATH3051 | 20 |
| Topology III | MATH3281 | 20 |

Lists B1 and B2 will be offered in alternate years, List B3 will run in both years.

10. Modules marked with a # must be passed at 40% or above in order to progress to the next Level of the Ordinary degree.

# Year Abroad

11. Students admitted to the BSc Mathematics (G100) are able to apply to transfer to the BSc Mathematics (with Year Abroad) programme (G109). Students undertaking the BSc Mathematics (with Year Abroad) programme (G109) will undertake an approved exchange in an overseas university taking a course of study chosen in consultation with the programme director and the host institution.

12. Students who the Board of Examiners for Mathematics deem to have made satisfactory progress on the year abroad will continue to Level 3 of the BSc Mathematics (with Year Abroad) (G109). Students who have not made satisfactory progress on the year abroad will not be permitted to continue on the BSc Mathematics (with

Year Abroad) (G109) programme, but must instead proceed to Level 3 of the BSc Mathematics (G100) programme.